OCCUPATIONAL SAFETY
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NOTICE OF PROPOSED MODIFICATIONS TO

CALIFORNIA CODE OF REGULATIONS

Title 8, Division 1, Chapter 4, Subchapter 7, Article 91, Section 4885;
Article 93, Section 4924; and Article 98, Section 5004(e)(3)
of the General Industry Safety Orders

Mobile Crane Load Safety Devices

Pursuant to Government Code Section 11346.8(c), the Occupational Safety and Health Standards Board (Standards Board) gives notice of the opportunity to submit written comments on the above-named standard in which modifications are being considered as a result of public comments and/or Board staff consideration.

On February 21, 2008, the Standards Board held a Public Hearing to consider revisions to Title 8, Sections 4885, 4924 and 5004(e)(3) of the General Industry Safety Orders. The Standards Board received written and oral comments on the proposed revisions. The standards have been modified as a result of these comments and Board consideration.

A copy of the full text of the standard, with the modifications clearly indicated, is attached for your information. In addition, a summary of all written and oral comments regarding the original proposal and staff responses is included.

Pursuant to Government Code Section 11346.8(d), notice is also given of the opportunity to submit comments concerning the addition to the rulemaking file of the following documents relied upon:

1. American National Standards Institute (ANSI) A10.31-1995, American National Standard for Construction and Demolition Operations – Safety Requirements, Definitions and Specifications for Digger Derrick Trucks.

2. American National Standards Institute (ANSI) A10.31-2006, American National Standard for Construction and Demolition Operations – Safety Requirements, Definitions and Specifications for Digger Derrick Trucks.

Copies of these documents are available for review during normal business hours at the Standards Board Office located at the address listed below.

Any written comments on these modifications and document relied upon must be received by 5:00 p.m. on May 30, 2008, at the Occupational Safety and Health Standards Board, 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833. These standards will be scheduled for adoption at a future business meeting of the Standards Board.

The Standards Board's rulemaking files on the proposed action are open to public inspection Monday through Friday, from 8:00 a.m. to 4:30 p.m., at the Standards Board's office.

Inquiries concerning the proposed changes may be directed to Marley Hart, Executive Officer at (916) 274-5721.

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

Date: May 12, 2008

Marley Hart, Executive Officer

PROPOSED MODIFICATIONS
(Modifications are indicated in bold,
underline for new language,
and bold, strikeout for deleted language.)

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

Amend Section 4885 to read:

§ 4885. Definitions.

Accessory. A secondary part or assembly of parts which contribute the over-all function and usefulness of a machine.
Angle Indicator (Boom). An accessory which measures and indicates the angle of boom to the horizontal.
Anti Two-Block Device. A device which, when activated, disengages all crane functions that can cause two-blocking.

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Switch. A device for making, breaking, or for changing the connections in an electric circuit.
Track. A structural member that supports the trolley or crane wheels.
Two-Block Damage Prevention Feature. A system which will stall when two-blocking occurs without causing damage to hoist rope or crane machinery components.
Two-Block Warning Feature. Warning device to alert the operator of an impending two-blocking condition.
Two-Blocking. A condition in which the lower load block or hook assembly comes into contact with the upper load block or boom point sheave assembly.

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NOTE: Authority and reference cited: Section 142.3, Labor Code.

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

Amend Section 4924 to read as follows:

§4924. Load Safety Devices.

(a) All cranes having a maximum rated capacity exceeding one ton shall be equipped with safety devices as provided herein.
EXCEPTIONS:
1. Boom-type excavators used in excavation work and all equipment ~~used exclusively~~ when configured for pile driving or log handling.
2. Articulating boom cranes are exempt from the provisions of subsection~~s~~ (c) ~~and (d)~~.
3. Digger derrick trucks designed, built and maintained in accordance with ANSI/ASSE A10.31 standards for "Construction and Demolition Operations - Safety Requirements, Definitions and Specifications for Digger Derricks".
(b) All mobile cranes including truck-mounted tower cranes~~, except as provided above,~~ having either a maximum rated boom length exceeding 200 feet or a maximum rated capacity exceeding 50 tons shall be equipped with a load indicating device or a load moment device, or a device that prevents an overload condition. Only approved devices as defined in the General Industry Safety Orders, Section 3206 shall be used.
(1) All other mobile cranes manufactured after September 27, 2005, with a maximum rated capacity exceeding 3 tons shall **~~have~~ be equipped with** a load indicating device, load moment device, or a device that prevents an overload condition.
Exception: When **installed** load indicating devices are not functional, a qualified person shall determine load weights until the device **~~can be~~ is** restored to operation.
(2) Load indicating devices shall be repaired in accordance with the manufacturer's recommendations.
~~(c) Each variable radius boom-type crane shall be equipped with a boom angle or a boom radius indicator in clear view from the operator's position.~~
~~(d)~~ (c) ~~Cranes~~ Mobile cranes ~~having a boom exceeding 60 feet in length or a maximum rated capacity exceeding 15 tons~~ shall be provided with ~~an approved~~ a boom angle or radius indicator which clearly shows the boom angle in degrees to the operator at all times.~~;~~ ~~the indicator shall give a clear visual warning signal before high or low unsafe boom angles are reached; the indicator shall be adjustable, and under the control of the operator at all times; and a visual inspection of indicator shall be made each day by the operator to see that it is properly functioning.~~
Exception: When a boom angle or radius indicator is inoperative or malfunctioning, a qualified person shall determine the radius or boom angle by measurement until the indicator is restored to operation.
(1) Boom angle or radius indicators shall be repaired in accordance with the manufacturer's recommendations.

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

(d) Anti two-block prevention and warning features.
(1) Telescopic boom cranes manufactured after February 28, 1992, shall be equipped with an anti two-block device or two-block damage prevention feature for all points of two-blocking.
(2) Lattice boom cranes manufactured after February 28, 1992, shall be equipped with an anti two-block device or a two-block warning feature, which functions for all points of two-blocking.
Exception: The requirements of subsection (d)(2), do not apply to lattice boom cranes when used for dragline, clamshell (grapple), magnet, and drop ball work.
(3) Articulating boom cranes manufactured after August 30, 2001, equipped with a load hoisting device (winch) shall be equipped with a two-block damage prevention feature.
(e) Spirit levels, or equivalent, shall be provided to indicate the level of the crane fore and aft and across the width.
NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

Amend Section 5004 to read as follows:

§5004. Crane or Derrick Suspended Personnel Platforms.
(a) Scope. These Orders apply to the design, construction, testing, use and maintenance of personnel platforms, and the hoisting of personnel platforms on load lines of cranes and derricks.

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(e) Instruments and Components.
(1) Cranes and derricks with variable angle booms shall be equipped with a boom angle indicator, readily visible to the operator.
(2) Cranes with telescoping booms shall be equipped with a device to indicate clearly to the operator, at all times, the boom's extended length, or an accurate determination of the load radius to be used during the lift shall be made prior to hoisting personnel.
(3)(A) ~~A positive acting~~ An anti two-block device shall be used which ~~deactivates the hoisting action before damage occurs in the event of a two-blocking situation (two block damage prevention feature)~~ when activated, disengages all crane functions that can cause two-blocking.
(B) When a derrick is used to hoist personnel platforms, limiting devices shall be installed to prevent two-blocking.

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NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

SUMMARY AND RESPONSE TO COMMENTS

SUMMARY AND RESPONSE TO ORAL AND WRITTEN COMMENTS

I. Written Comments

Mr. Bradley D. Closson, Craft Forensic Services, by e-mail dated January 7, 2008.

Comment No. 1

With respect to the requirements for the load indicating devices prescribed in Section 4924(b)(1), Mr. Closson commented that the term "shall have" should be replaced with the term "shall be equipped" for clarity and consistency with other standards.

Response

Board staff concurs that the comment has merit for clarity and consistency and an editorial modification is proposed accordingly in Section 4924(b)(1).

Comment No. 2

With respect to the "Exception" in proposed Section 4924(b)(1), Mr. Closson commented that the words "the installed" should be inserted before the first use of the word "load".

Response

The Board believes that adding the word "installed" before the first use of the word "load" in the exception would add clarity to the standard and a modification is made accordingly.

Comment No. 3

With respect to proposed Section 5004(e)(3)(A), Mr. Closson commented that the proposed wording does not appear to be enforceable; it is a just a restatement of the definition for "anti two-block device" being added in the proposal and it is not consistent with the two previously stated requirements of the section. Mr. Closson recommended rewording the subsection to read, "Cranes shall be equipped with an anti two-block device".

Response

The existing language in 5004(e)(3)(A) lacks clarity as indicated in the Initial Statement of Reasons. The language as proposed requires that the anti two-block device is to be used and prescribes what the device must achieve when activated without the need to look up a definition. Board staff believes that the language as proposed is enforceable and sufficiently clear.

The Board thanks Mr. Closson for his comments and participation in the Board's rulemaking process.

Michael J. Vlaming, Executive Director, Crane Owner's Association, Inc., by letter dated February 15, 2008.

Comment

Regarding the monitoring of crane loads, Mr. Vlaming stated that most, if not all, new cranes have electronic components to monitor and warn the crane operator of certain hoisting conditions. Two of these components are the load moment indicator and the boom angle/radius indicator. He stated that the proposed amendments in Section 4924 contain an inconsistency because an exception to subsection (b)(1) permits the operation of a crane load when load indicating devices are not functional (provided loads can be determined by a qualified person). However, no similar exception is provided under subsection (c) when a boom angle/radius indicator is not functional.

Mr. Vlaming stated that in many, if not all, cranes with electronic monitoring components, the load moment and boom angle/radius indicator are contained and displayed on the same component (unit). If the monitoring device/unit is not functioning, both the load indicating device and boom angle/radius information are not available. A qualified operator is capable of determining both the load weight and the boom angle/radius information to allow continued operation of the crane. Mr. Vlaming provided recommended language that would provide an exception for boom angle/radius provisions contained in subsection (c)(1).

Response

Board staff discussed this comment with a major mobile crane manufacturer (Link-Belt Cranes) and was advised that their crane operator's manual provides that when a boom angle or radius indicator is inoperative or malfunctioning, that the radius or boom angle shall be determined by measurement. Further, the ASME B30.5 – 2004, Standard for Mobile and Locomotive Cranes contains a similar provision that permits when a boom angle or radius indicator is inoperative or malfunctioning that the radius or boom angle shall be determined by measurement. For these reasons, and upon evaluation of the proposed comments, a modification is proposed to provide an exception for subsection (c)(1) to address situations when a boom angle or radius indicator is inoperative or malfunctioning.

The Board thanks Mr. Vlaming for his comments and participation in the Board's rulemaking process.

Ms. Teresa A. Harrison, Acting Regional Administrator, Region IX, Occupational Safety and Health Administration (Federal OSHA), by letter dated February 26, 2008.

Federal OSHA commented that it had completed its review of the proposal and stated that the proposed standards contain requirements not specifically addressed in federal regulations and therefore, is more effective that the federal standard in protecting in protecting employees from accidents as a result of two-blocking conditions.

The Board thanks Federal OSHA for their review, comments and participation in the Board's rulemaking process.

II. Oral Comments

Oral comments received at the February 21, 2008 Public Hearing in Sacramento, California.

Mr. Alvan Mangalindan, representing the Crane Owner's Association.

Comment

Alvan Mangalindan of the Crane Owners Association expressed concern that the exception to Section 4924(b)(1) allows for the operator of an upright crane to continue operation when the load indicating device fails or malfunctions, but the same type of exception does not apply when a similar electronic hoisting monitoring device, a boom angle or radius indicator, also fails or malfunctions. He stated that on most, if not all cranes, the load indicating device and the boom angle or radius indicator are displayed on the same component; thus, if one indicator fails, the other will also fail and not be displayed. He recommended that the same type of exception in Section 4924(b)(1) be applicable to the boom angle/radius indicating device required in Section 4924(c).

Response

See the response to Mr. Vlaming's written comment. The Board thanks Mr. Mangalindan for his comments and participation in the Board's rulemaking process.

Mr. Michael Battaini, representing Sheedy Drayage Company.

Michael Battaini, Sheedy Drayage Company, expressed support for Mr. Mangalindan's comments. He stated that the boom angle can be determined by means other than the boom angle indicator, such as measuring the radius and looking at the crane load chart, which indicates the maximum load for the configuration of the crane. By these means, the crane operator can easily assess the boom angle without the device and determine the maximum permitted load.

Response

See the response to Mr. Vlaming's written comment. The Board thanks Mr. Battaini for his comments and participation in the Board's rulemaking process.